HIV AND AIDS IN SASKATCHEWAN 2009

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Saskatchewan Ministry of Health
Population Health Branch

Summary:

This annual report presents an over view of HIV and AIDS in Saskatchewan to the end of December 2009.

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Prepared by:

Disease Prevention Unit, Population Health Branch, Saskatchewan Ministry of Health

Contact:

Val Mann, PhD
Chief Population Health Epidemiologist
Population Health Branch,
Saskatchewan Ministry of Health
cdc@health.gov.sk.ca

Purpose

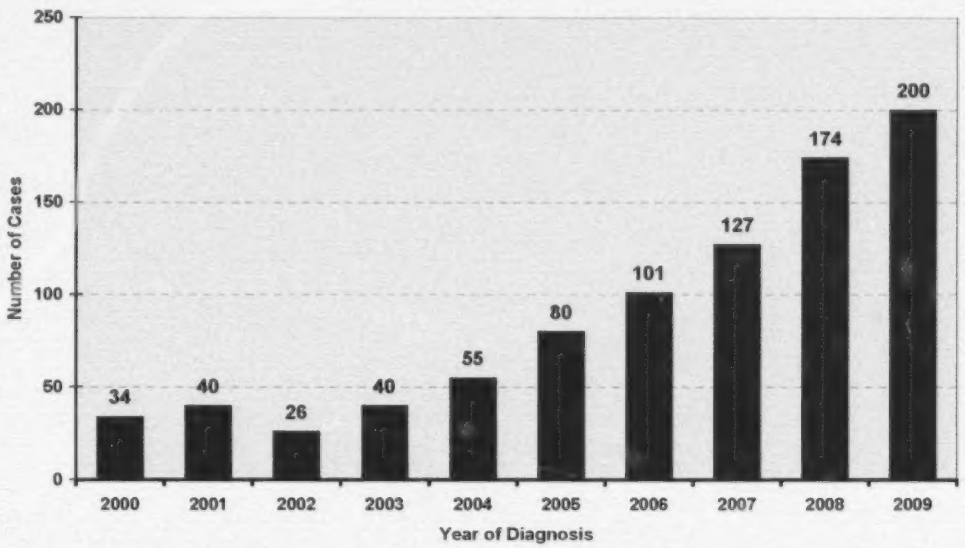
This epidemiological report, HIV and AIDS in Saskatchewan 2009, builds on the recently published 2008 HIV and AIDS report, which provides a historical trend analysis of the disease over the past ten years. This report profiles HIV infections and AIDS in Saskatchewan to the end of December, 2009.

HIV Morbidity

Since 1984 when HIV monitoring began, a total of 1198 lab-confirmed cases have been reported in Saskatchewan. Three-quarters of these individuals (877 cases) have been identified in the 10 years, 2000 to 2009 Fig. 1).

In 2009, 200 laboratory-confirmed HIV cases were reported compared to 174 in 2008, 127 in 2007 and 101 in 2006. This is a 15% increase in newly diagnosed cases over 2008 and double the number of cases reported in 2006.

Fig. 1 Incidence of HIV in Saskatchewan, 2000 to 2009

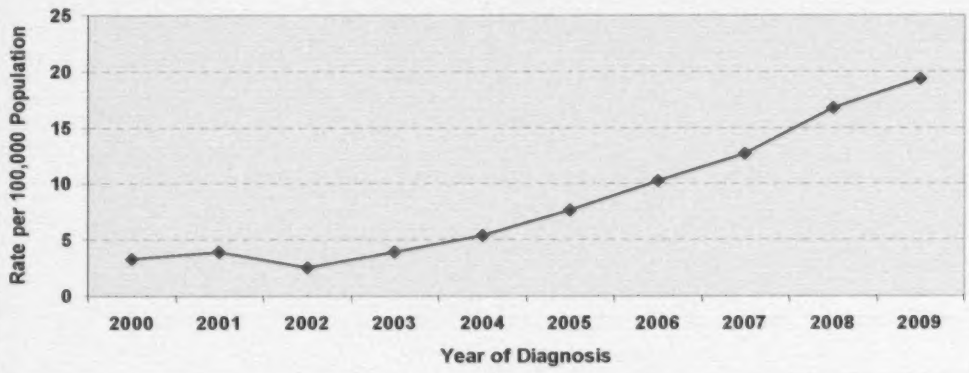


There has been an average increase of approximately 30 cases per year from 2005 to 2008. With the increasing number of reported cases of HIV, the annual crude rates for HIV in Saskatchewan do not fluctuate as widely as in the earlier years.

Since 2002, a steady upward trend has occurred as displayed in Fig. 2.

Sixty-nine percent of the 877 new HIV cases during the ten years, 2000-2009, were residents in the urban centres of Saskatoon, Regina and Prince Albert.

Fig. 2 Crude Incidence Rates of HIV in Saskatchewan 2000-2009

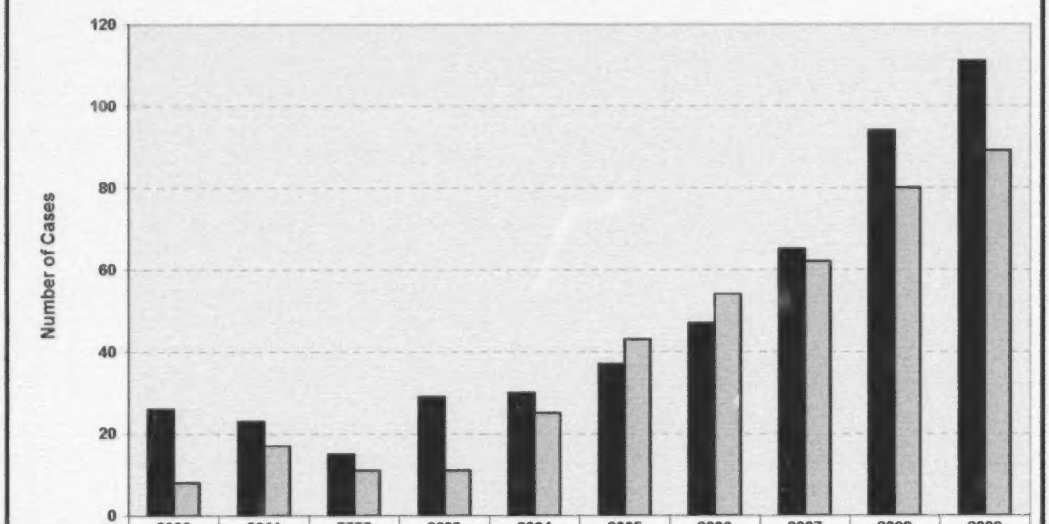


HIV Morbidity — gender and age profile

In 2009, 89 new female cases and 111 male HIV cases were identified. Sixty-nine percent (328 cases) of the 475 female HIV cases reported since 1984 have been identified in the past five years.

In 2004, the number of female cases began to increase, surpassing the number of male cases in 2005 and 2006 (Fig. 3). Since 2007, the number of male cases has been higher than the number of female cases.

Fig 3. Incidence of HIV in Saskatchewan Gender by Year of Diagnosis, 2000 - 2009

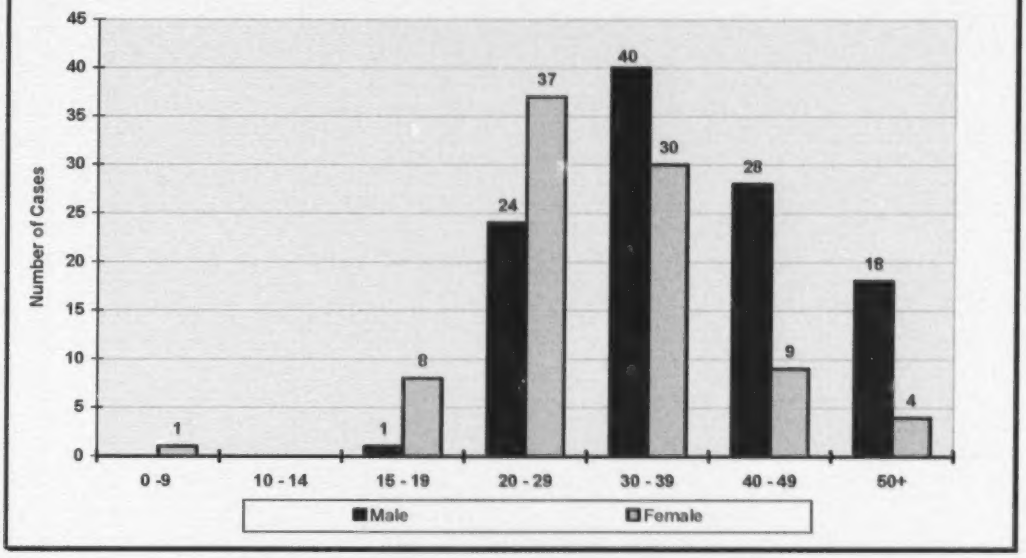


	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Male Case	26	23	15	29	30	37	47	65	94	111
Female Case	8	17	11	11	25	43	54	62	80	89

In 2009, female cases still exceeded male cases in the younger age groups 15-19 years (eight female versus one male case) and 20-29 years (37 female versus 24 male cases) (Fig. 4).

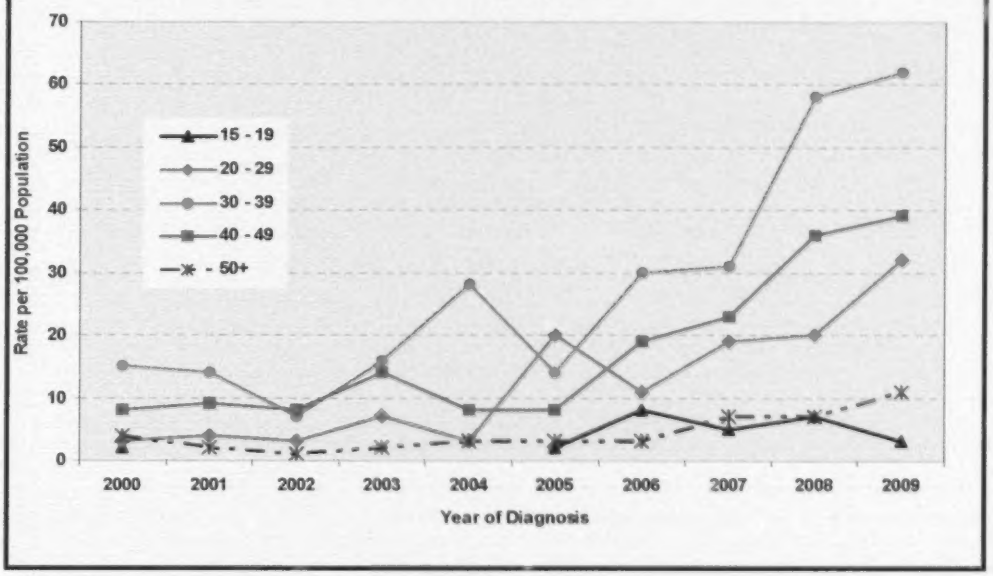
The majority of all cases (83%) of both genders reported in Saskatchewan since 1984 were 20-49 years of age at the time diagnosis (where age and sex data are available). In 2009, 84% of cases (168 cases) were included in this age group. The incidence rate among females and males over 50 years of age has remained steady in the last decade.

Fig. 4 Incidence of HIV Cases in Saskatchewan, Age Group by Sex, 2009



The trend in gender distribution of cases in the last decade (2000-2009) has shown a steady upward trend among males aged 30-49 with a sharp increase in the incidence rate since 2007 (Fig 5).

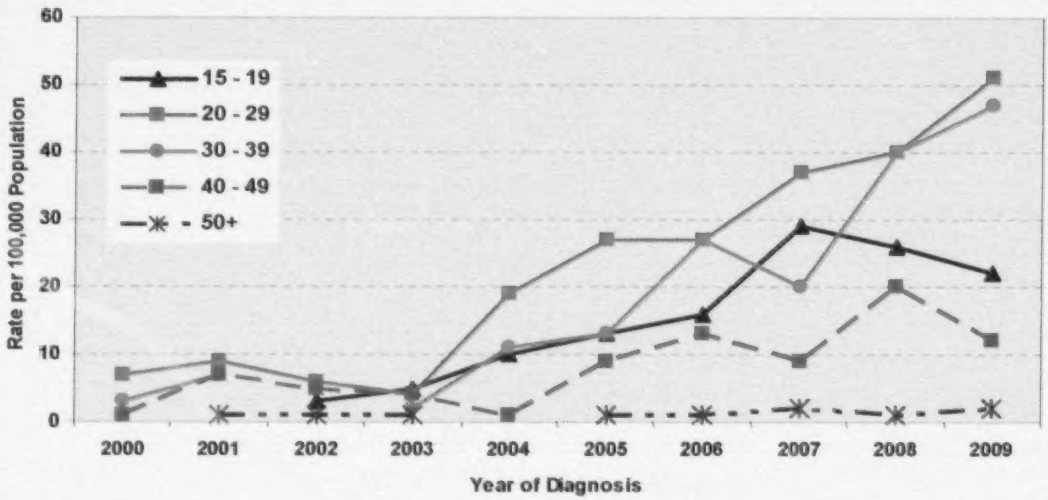
Fig. 5 Incidence Rates for Male HIV cases in Saskatchewan, Age group and Year, 2000-2009



An earlier increase in the incidence rate beginning in 2003 was seen among younger females aged 20-29 years.

The incidence rate for females aged 15-19 showed a steady increase from 2002-2007, but decreased in 2008 and 2009 (Fig. 6).

Fig.6 Incidence Rates for Female HIV cases in Saskatchewan, Age Group and Year, 2000-2009



The majority of all HIV cases among young women have been identified in the most recent ten year period. Eighty-nine percent (47/53) of the total cases among women aged 15-19 years were identified during 2000-2009. Eighty-one percent (161/198) of all cases in women between 20-29 years were identified in the same ten year period.

The average age of female cases in 2009 was 30.2 years (range: 0-55) compared to that of male cases at 37.7 years (range: 18-58 years).

HIV Morbidity — ethnicity profile

Ethnicity data is important as it further characterizes populations to support targeted program planning and resource allocation. Ethnicity is self-reported. In 2009, 36 cases were of non-Aboriginal ethnicity and 79% (157 of 200 cases) were of Aboriginal origin. Aboriginal origin comprised 76% of cases in 2008 and 65% in 2007. Ethnicity was not recorded for 4% (7 of 200 cases) of cases in 2009, compared to 4% in 2008 and 13% in 2007.

Eighty-nine percent of females (79/89) in 2009 were Aboriginal compared to 70% of males (78 of 111 cases). The remaining females included seven non-Aboriginal females and three females of unreported ethnicity. The remaining males included 29 non-Aboriginal males and four males of unreported ethnicity.

All eight HIV cases diagnosed in 2009 in the 15-19 year age group were Aboriginal females. Ninety-two percent (56/61) in the 20-29 year age group were of Aboriginal ethnicity; 57% (35 cases) of this group were Aboriginal females. Of the 70 cases comprising the 30-39 year age group, fifty-five cases (79%) were Aboriginal, including 25 Aboriginal female cases (36%).

On average female cases are younger than male cases. This gender difference is more notable among Aboriginal females. In 2009, the average age of Aboriginal female cases was 29.4 years, with 38% of Aboriginal female cases being 25 years of age or younger. The average age of Aboriginal male cases was older at 36 years. However, only 14% (11 cases) of male Aboriginal cases in 2009 were 25 years of age or younger. The average age of non-Aboriginal cases, both male and female, was 41.1 years.

HIV Morbidity — self reported risk exposure to infection

The categories of risk exposures in this report indicate the most likely reason for acquiring HIV infection (Table 1). In the early years of HIV/AIDS notification, risk exposure was often not known or was not reported consistently. Risk exposure information is self-reported by the client.

Table 1 – Incidence of HIV cases in Saskatchewan by Risk Factor, 2000-2009

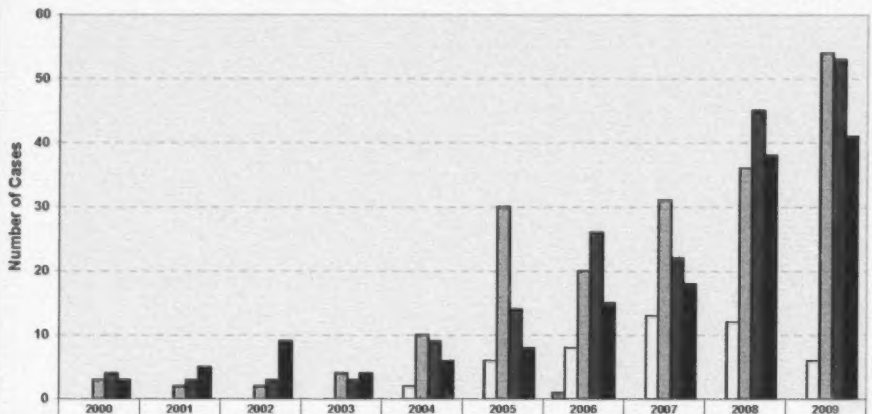
Year	MSM	IDU	MSM/IDU	Het-Exposure	Endemic	Perinatal Transfer	NIR	Total
2000	10	10		10	1		3	34
2001	10	10	2	8	7		3	40
2002	1	14		7	3		1	26
2003	12	11	3	12	2			40
2004	2	27	3	11	8		4	55
2005	4	58	1	6	1	3	7	80
2006	5	70		17	1		8	101
2007	7	84	3	16	1	4	12	127
2008	7	131	3	21	2		10	174
2009	5	149	5	30		1	10	200
Total	**63**	**564**	**20**	**138**	**26**	**8**	**58**	**877**

- MSM – Men having sex with men
- IDU – Injection Drug Use
- Het-Exposure – Heterosexual Exposure
- Endemic – Having lived in or from an endemic country
- Perinatal – Born to an HIV positive mother
- NIR – No Identified Risk and less likely sources of infection.

Injection drug use (IDU) remains one of the major risk exposures reported by HIV infected cases in the province of Saskatchewan. In 2009, 154 of the 200 reported cases of HIV self-reported injection drug use; of these 130 (84%) also self-identified as Aboriginal compared to 20 (13%) of non-Aboriginal ethnicity (Four cases did not report ethnicity).

The high proportion of IDU cases determines, to a large extent, the overall profile of HIV in Saskatchewan. In 2009, 47% (73 cases) of IDU cases were female. Over one-third (39%) of HIV infected injection drug users in 2009 were between 15-29 years of age with approximately 34% in the 30-39 year age group. All six of 154 IDU cases (4%) aged 15-19 years were female; 54 of 154 cases (35%) were 20-29 years old (32 females) (Fig 7).

Fig. 7 Injection Drug Use among HIV cases in Saskatchewan Age Group in Year of Diagnosis, 2000-2009



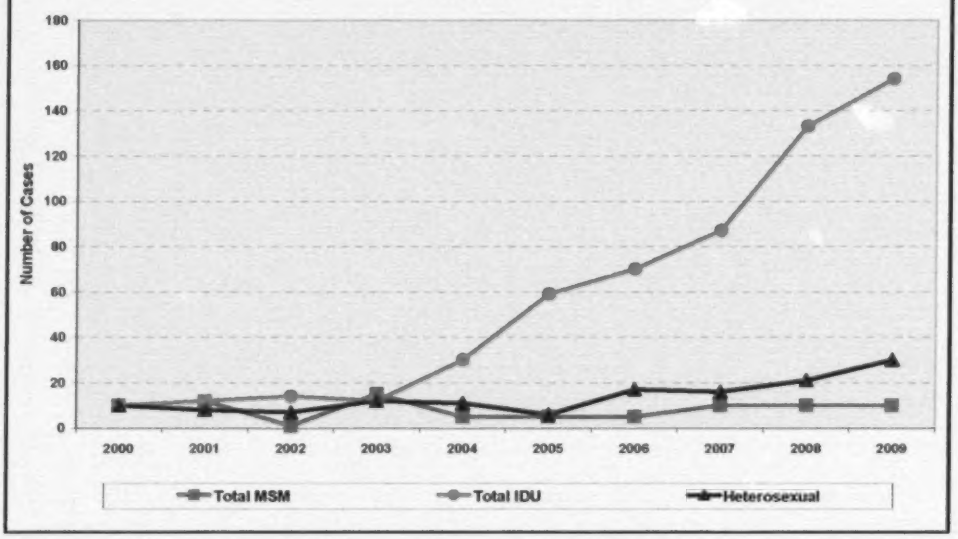
	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
< 15							1			
15-19					2	6	8	13	12	6
20-29	3	2	2	4	10	30	20	31	36	54
30-39	4	3	3	3	9	14	26	22	45	53
40+	3	5	9	4	6	8	15	18	38	41

Men engaging in sex with other men (MSM) as a risk exposure for HIV is low in Saskatchewan. In 2008 only ten cases (6%) self-identified this risk. In 2009, 10 men (5%) reported this risk exposure. Five of these also reported injecting drugs.

Heterosexual exposure refers to sexual contact with a known or suspected HIV positive partner of the opposite sex. The incidence of cases with heterosexual exposure has gradually increased since 2005.

In 2005, there were six cases (3 males) with risk of heterosexual exposure compared to 18 cases in 2006 (6 males), 16 cases (7 males) in 2007, and 22 cases (14 males) in 2008. In 2009, 30 cases (19 males) reported heterosexual activity as the primary risk for acquiring HIV infection (Fig. 8).

Fig. 8 Selected Risk Factors Among HIV Cases in Saskatchewan 2000-2009



Endemic risk exposure includes those who were born in a country where HIV is considered endemic, that is, a country where the predominant means of HIV transmission is through heterosexual contact. Between 2006 and 2008, there were four endemic cases of HIV reported in Saskatchewan. No endemic cases were reported in 2009.

There is no risk information to date for six cases reported in 2009.

Nine newborns have been infected through perinatal transmission since 1997 (1997-1 case, 2005-3 cases, 2007- 4 cases , 2009-1case). For these nine cases, the mother did not receive HIV treatment during pregnancy or delivery. Prior to 1997, seven newborns were infected at birth through perinatal transfer of HIV. Five of these seven cases were born to women from endemic countries who did not declare or were unaware of their HIV positive status at the time of delivery.

Mortality among HIV infected cases

There have been 199 deaths reported among HIV infected individuals since 1984. Not all of these deaths are directly associated with their HIV infection.

Six newly diagnosed AIDS cases in 2009 died within the year of their diagnosis.

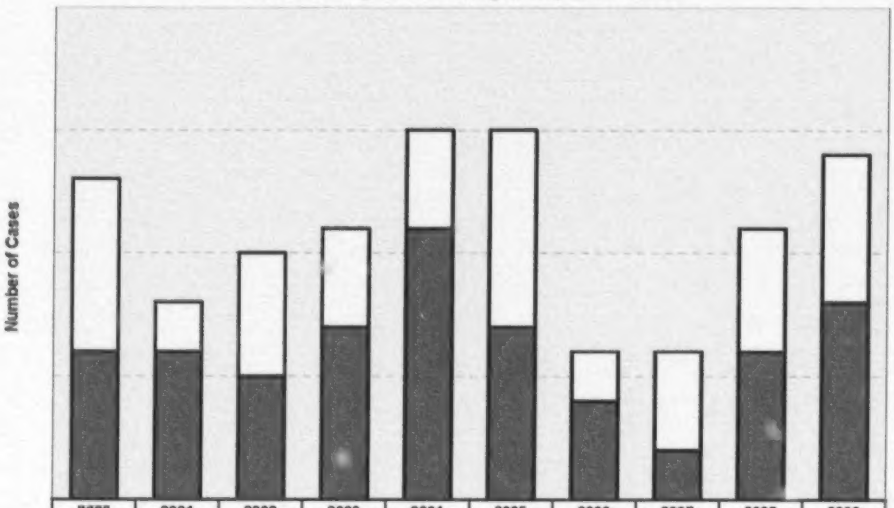
AIDS morbidity

Certain diseases associated with HIV infection define the progression of illness to AIDS (Acquired Immunodeficiency Syndrome). Fourteen HIV infected individuals, seven males and seven females, were reported as diagnosed with an AIDS defining illness in 2009. Six of the cases were between the ages of 20 and 40 years.

Two hundred and seventy one AIDS cases, comprising 215 males and 56 females, have been reported in Saskatchewan since notifications were first received in 1984.

The annual incidence pattern does not necessarily reflect the year in which the client was infected, but rather the year in which the individual was diagnosed with an AIDS defining illness. With an incubation period of 11 to 15 years, the epidemiological profile of AIDS best describes the pattern of HIV infection approximately 10 to 15 years prior to the trends displayed in figure 9.

Fig. 9 Incidence of AIDS in Saskatchewan
Life Status by Year of Diagnosis, 2000 - 2009



	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009
Deceased	7	2	5	4	4	8	2	4	5	6
Alive	6	6	5	7	11	7	4	2	6	8

*Mortality data may be incomplete

Technical notes

Notification of HIV and AIDS cases to the local medical health officer and the Coordinator of Communicable Disease Control, Saskatchewan Ministry of Health, is mandated by *The Disease Control Regulations* under *The Public Health Act, 1994*.

As result of database cleaning, some previously counted cases are removed after being identified as either not meeting the case definition for HIV and AIDS or as being previously reported in Saskatchewan or in another jurisdiction. A small number of cases can be identified only by laboratory specimen number and may be synonymous with another case in the database. Ongoing maintenance of the database may result in records being assigned to a different year of diagnosis or risk exposure category as updated information becomes available.

This report is based on the number of HIV and AIDS cases diagnosed by laboratory confirmation while resident in the province. Out-of-province residents testing positive for HIV in Saskatchewan are not counted in provincial statistics. Several provincial jurisdictions did not require reporting of AIDS when Saskatchewan began surveillance for the syndrome. Some people living with AIDS in Saskatchewan were tested positive in jurisdictions where HIV and AIDS were non-reportable at the time and are counted among the AIDS cases in this report. Individuals from jurisdictions where HIV was not reportable are attributed to the year when re-testing took place in this province.

HIV cases have been assigned to the year in which they were first lab-confirmed since the date of infection cannot always be determined. The exception is infant cases born to infected mothers who are assigned by the year of birth. Individuals tested by Citizenship and Immigration Canada as part of the immigration process are not included in this report.

Ethnicity is mandatory for reporting and is self-reported. For purposes of this report, Aboriginal persons comprise Inuit, Métis, and First Nations. The non-Aboriginal classification includes Caucasian, African-Canadian, Latin-American, Asian, South Asian and Arabic ethnicity.

Risk exposure information is self-reported, thus limiting the accuracy and completeness of the data. Some individuals self-reported additional risk exposures; however, these are deemed to be a less likely source of infection.

The annual data for HIV serology reflects the number of patients testing positive for the first time in a given year. Repeat tests during a year are removed as well as follow-up tests on individuals tested in previous years.

Prepared November, 2010.